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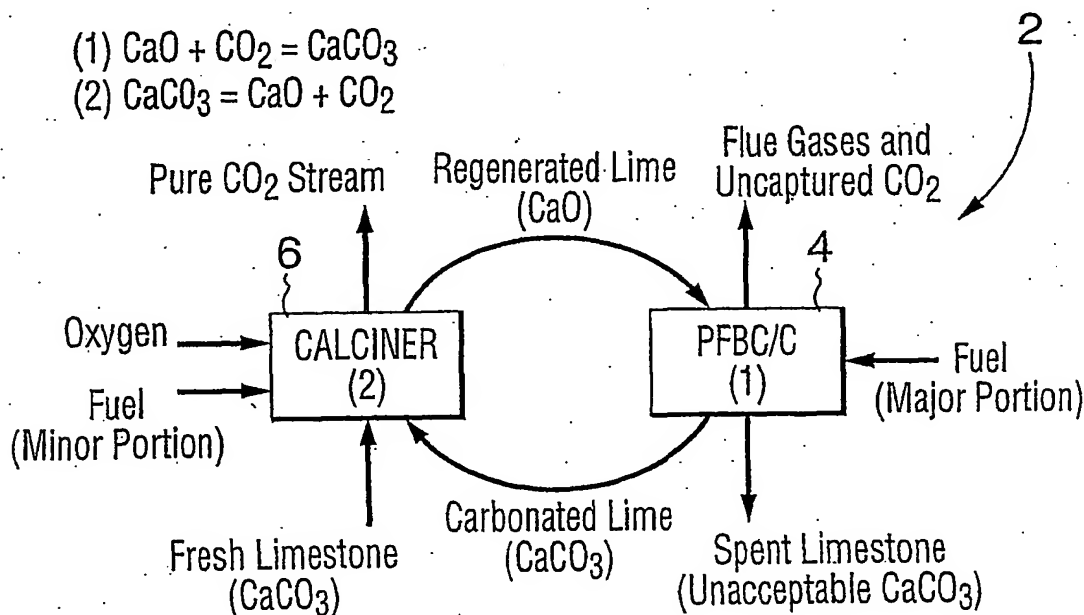
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(54) Title: PRE-TREATMENT OF LIME-BASED SORBENTS USING HYDRATION



(57) Abstract: The present invention discloses a method and an apparatus for reactivating lime-based sorbents and increasing the carbon dioxide-capture capacity of the sorbent in the combustion of carbon-containing fuels. The present invention teaches the pretreatment of the lime-based sorbent using a hydration process after each process of carbon dioxide separation. The invention is useful in reducing the need to add additional sorbent to maintain the carbonation/calcination cycle. The regenerative potential of the sorbent as manifested by the present invention leads to increased carbon dioxide -capture capacity of the sorbent.

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